

REMARKS

Applicants submit this Amendment in response to the second, non-final Official Action in the Request for Continued Examination (RCE) of the above-identified patent application. In the Official Action, the Examiner rejects all of the pending claims of the present application, namely Claims 1-24, under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,798,706 to Jeffrey A. Kraemer, et al., in view of PCT Patent Application Publication No. WO 97/26734 to Kirby et al. As explained below, however, Applicants respectfully submit that the claimed invention is patentably distinct from Kraemer and Kirby, taken individually or in combination and, accordingly, traverse this rejection of the claims. Nonetheless, Applicants have amended independent Claims 1, 6, 11 and 16 to more clearly define the claimed invention. More particularly, Applicants have amended independent Claims 1, 6, 11 and 16 to incorporate the subject matter of dependent Claims 21-24, and have accordingly, cancelled dependent Claims 21-24. Further, Applicants have added new Claims 25-32 to claim further patentable features of the claimed invention. In view of the amendments to the claims, the newly added claims, and the remarks presented herein, Applicants respectfully request reconsideration of the present application and allowance of the claims.¹

As amended, independent Claim 1 of the present application recites an apparatus for detecting adversarial activity on a network that includes:

- a memory adapted to store a host table;
- a key exchanger adapted to repeatedly derive a cipher key such that the resulting cipher key changes over time;
- a translator adapted to translate predetermined portions of packet header information of a data packet according to a cipher algorithm keyed by the cipher key, wherein the predetermined portions include an address;
- a mapping device adapted to map the address to the host table;
- a host resolution device adapted to issue a request to the network to resolve the address when the address does not match an entry in the host table and to supplement the host table with the address upon receipt of a reply to the request that indicates that the address is valid; and

¹ As Applicants' remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicants' silence as to assertions by the Examiner in the Official Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute such in the future.

an actuator adapted to trigger a security device when the address does not match an entry in the host table.

As indicated above and explained below, neither Kraemer nor Kirby, taken individually or in combination, teach or suggest the apparatus of amended independent Claim 1. More particularly, neither Kraemer nor Kirby, taken individually or in combination, teach or suggest a key exchanger adapted to repeatedly derive a cipher key such that the resulting cipher key changes over time, as in amended independent Claim 1. Noting similar subject matter in former dependent Claim 21, the Official Action cites Kirby as allegedly disclosing this feature of the claimed invention. Applicants respectfully disagree.

Kirby, however, is not entirely irrelevant to the subject matter of Applicants' claims. At best, Kirby discloses a system and method for transferring encrypted packets over a public network. In this regard, Kirby does disclose encrypting data packets in accordance with an encryption algorithm and key, which one could argue corresponds to the cipher key of the claimed invention. Kirby also discloses a Kerberos Network Authentication System in which a trusted computer supplies a pair of computers with a secret key with which the pair of computers may transfer encrypted data. Kirby even discloses use of a secret key for each tunnel between the pair of computers. Regardless of any possible relevance noted above, however, in no instance, does Kirby teach or suggest that the key provided to the pair of computers changes over time, much less that the trusted computer repeatedly derives a key such that the resulting key changes over time, in a manner similar to that of amended independent Claim 1.

Similar to Kirby, Kraemer also fails to teach or suggest the repeated derivation of a cipher key and, indeed, is not cited for such a proposition. Applicants therefore respectfully submit that neither Kraemer nor Kirby, taken individually or in combination, teach or suggest the key exchanger of amended independent Claim 1. Since neither Kraemer nor Kirby, taken individually or in combination, teach or suggest at least a key exchanger or translator as recited by amended independent Claim 1, amended independent Claim 1 is patentably distinct from the Kraemer in view of Kirby. Thus, the

rejection of amended independent Claim 1 is overcome, and Applicants respectfully request withdrawal of the rejection thereof.

Similar to amended independent Claim 1, amended independent Claim 6 recites a method for detecting adversarial activity on a network that includes:

- storing a host table;
- repeatedly deriving a cipher key such that the resulting cipher key changes over time;
- translating predetermined portions of packet header information of a data packet according to a cipher algorithm keyed by the cipher key, wherein the predetermined portions include an address;
- mapping the address to the host table;
- issuing a request to the network to resolve the address when the address does not match an entry in the host table and supplementing the host table with the address upon receipt of a reply to the request that indicates that the address is valid; and
- triggering a security device when the address does not match an entry in the host table.

Notably, Claim 6 recites “repeatedly deriving a cipher key such that the resulting cipher key changes over time” in similar recitation to the inserted language of currently amended claim 1.

Amended independent Claim 11 recites a device for detecting adversarial activity on a network and includes various means for performing the method of amended independent Claim 6.

Amended independent Claim 16 recites a bastion host adapted for processing packet header information of the data packet and operable to perform the method of amended independent Claim 6.

Therefore, for similar reasons to those described above in conjunction with amended independent Claim 1, amended independent Claims 6, 11 and 16 are also not taught or suggested by Kraemer or Kirby, taken individually or in combination. Thus, the rejection of amended independent Claims 6, 11 and 16 is also overcome, and Applicants respectfully request that the rejection of amended Claims 6, 11 and 16 be withdrawn.

Claims 2-5, 7-10, 12-15 and 17-20 & 25-32, which depend from respective ones of amended independent Claims 1, 6, 11 and 16, are also patentably distinct from Kraemer and Kirby, taken individually or in combination, for at least the same reasons as described above in

conjunction with their respective base independent claims.² As such, the rejection of the dependent claims is therefore also correspondingly overcome, and Applicants respectfully request that the rejection of dependent Claims 2-5, 7-10, 12-15 and 17-20 be withdrawn (the rejection of Claims 21-24 being rendered moot in view of their cancellation).

² As Applicants' remarks with respect to the base independent claims are sufficient to overcome the Examiner's rejection of all claims dependent therefrom, Applicants' silence as to the Examiner's assertions with respect to the dependent claims is not a concession by Applicants to the Examiner's assertions as to these claims, and Applicants reserve the right to analyze and dispute such assertions in the future.

Appl. No.: 09/928,133
Amdt. dated 01/03/07
Reply to Official Action of October 19, 2006
Page 13

CONCLUSION

In view of the foregoing, it is respectfully submitted that all of the claims of the present application are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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